SEQUENCE LISTING

| SEQUENCE LISTING <110> McIninch, James | |
|---|-----|
| <120> COMPUTATIONAL NUCLETC ACID CODING AND FEATURE ANALYSIS | |
| | |
| <130> 04983.0220.00US00 | |
| <160> 4 | |
| <170> PatentIn version 3.0 | |
| <210> 1 | |
| <211> 2165 | |
| <212> DNA | |
| <213> Arabidopsis thaliana \ | |
| <220> | |
| <221> unsure | |
| <222> (1)(2165) | |
| <223> Unsure at all n locations | |
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| <223> Ecotype Landsberg, genomic DNA | |
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| aaaaggatgc ttatgttgga gacgaggctc aatcaaaacg tggtatcttg actctgaagt | 180 |
| acccaattga gcatggaatt gttaataatt gggatgacat ggagaagatt tggcatcaca | 240 |
| ctttctacaa tgagcttcgt gttgcccctg aagaacatcc ggttctcttg accgaagctc | 300 |
| ctctcaatcc gaaagctaac cgtgagaaga tgactcagat catgtttgag acattcaata | 360 |
| ctcctgctat gtatgttgcc attcaagctg ttctctcact ctatgccagt ggccgtacta | 420 |
| ctggtcagta cattactaca ttcttttat accgtttggt tgaaataaaa ttcggtttgg | 480 |
| ttcgattcga gtttgctctc attattttta ttttgttggt taggtattgt tttggactcc | 540 |
| ggagatggtg tgagccacac ggtaccaatc tacgagggtt atgcacttcc acacgcaatc | 600 |
| ctgcgtcttg atcttgcagg tcgtgaccta accgaccacc ttatgaaaat cctgacagag | 660 |
| cgtggttact ctttcaccac aactgctgag cgtgagattg ttagagacat gaaggagaag | 720 |
| ctctcttaca ttgccttgga ctttgaacaa gagctcgaga cttccaaaac aagctcatcc | 780 |
| gttgagaaga gcttcgagct gccagacggt caagtgatca ccatcggggc agagcgtttc | 840 |
| cgatgccctg aagttctgtt tcagccatcg atgatcggaa tggaaaatcc gggaattcat | 900 |





gaaactactt acaactcaat catgaaatgt gatgtggata tcaggaagga tctttatgga 960 aacattgtgc ttagtggtgg caccacaatg ttcgatggga ttggtgatag gatgagtaaa 1020 gagatcacag cgttggctcc aagcagtatg aacatcaaag tggtggctcc accggaaagg 1080 aagtacagtg tctggatcgg tggctctatc ttggcttccc tcagtacttt ccagcaggta 1140 aattacttac tatacttaat acataaagtc tattagtgat ttgatgtata aagtgttaca 1200 aaaatgtgtt ccaaatttgc agatgtggat tgcgaaagcg gagtatgatg aatctggacc 1260 gtcaatcgtc cacaggaagt gcttctgatc aaaagtcacc aagtaaaaca agagcggtaa 1320 aaattttgat atcagttttt caccetgaag ccagttgeta taattaetea caacttetet 1380 atttgtgttc ttttattctt gtccctcgtt gttcatttta atctctttt tgcaacaaag 1440 caacttaaaa aaacagagca gtcattaaca gaatgttatt attatatata tgtatacata 1500 ttagtataca cccattattt cattaaaaca tttatcatat aaggatagga ttctatacat 1560 cgatatattt attttgttga cactattcag cacatgctta tgtcttatct tgttagtata 1620 tgtaaccaaa gacaaataat agatgctaca aattgttttc tttgaagcaa aaatttcaat 1680 cttaaaattg ttttttcca ggttacacaa aaaaaacttg tagtttgtaa attttctata 1740 caattttggg gatctcaaca agaacatgaa cttcaacttc tagtcatatg acgacctgag 1800 tctgcgcggc tgtgaatctc tttgctgcag taaatgttta caagtggtgt gtaaattggt 1860 actgattcaa aagctttaag aaatctacac atttcgtgaa attatttagc agacttgata 1920 ttaaaaatct aggataaaat gactatccaa agacaaatag gactgtttca catgttcccc 1980 tgattcttgt agctcataac tcatcagcag ttaacttttc tacctcatac acgctcgcaa 2040 tncgtttgga attatcagct ntaatttttc taattctttg gaaattatta gcagctcgat 2100 caaatggggc atggcttctt cttctatctg caactcatct aaactttcca tgaagaaaca 2160 aagct 2165

<210> 2

<211> 423

<212> PRT

<213> Unknown

<220>

<223> Describes a predicted protein sequence



<221> site

<222> (1)...(423)

<223> A stop codon is predicted at all XAA locations

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Xaa Arg Phe Phe Arg Ala Leu Xaa Ala Val Leu Ala Thr Pro Val Xaa 1 5 10 15

Trp Leu Gly Trp Asp Lys Arg Met Leu Met Leu Glu Thr Arg Leu Asn 20 25 30

Gln Asn Val Val Ser Xaa Leu Xaa Ser Thr Gln Leu Ser Met Glu Leu 35 40 45

Leu Ile Ile Gly Met Thr Trp Arg Arg Phe Gly Ile Thr Leu Ser Thr 50 55 60

Met Ser Phe Val Leu Pro Leu Lys Asn Ile Arg Xaa Leu Thr Glu Ala 65 70 75 80

Pro Leu Asn Pro Lys Ala Asn Arg Glu Lys Met Thr Gln Ile Met Phe 85 90 95

Glu Thr Phe Asn Thr Pro Ala Met Tyr Val Ala Ile Gln Ala Val Leu 100 105 110

Ser Leu Tyr Ala Ser Gly Arg Thr Thr Gly Gln Tyr Ile Thr Thr Phe 115 120 125

Phe Leu Tyr Arg Xaa Ser Gly Asp Gly Val Ser His Thr Val Pro Ile 130 135 140

Tyr Glu Gly Tyr Ala Leu Pro His Ala Ile Leu Arg Leu Asp Leu Ala 145 150 155 160

Gly Arg Asp Leu Thr Asp His Leu Met Lys Ile Leu Thr Glu Arg Gly 165 170 175

Tyr Ser Phe Thr Thr Thr Ala Glu Arg Glu Ile Val Arg Asp Met Lys
180 185 190

Glu Lys Leu Ser Tyr Ile Ala Leu Asp Phe Glu Gln Glu Leu Glu Thr 195 200 205

Ser Lys Thr Ser Ser Ser Val Glu Lys Ser Phe Glu Leu Pro Asp Gly 210 215 220

Gln Val Ile Thr Ile Gly Ala Glu Arg Phe Arg Cys Pro Glu Val Leu 225 230 235 240

Phe Gln Pro Ser Met Ile Gly Met Glu Asn Pro Gly Ile His Glu Thr 245 250 255 Thr Tyr Asn Ser Ile Met Lys Cys Asp Val Asp Ile Arg Lys Asp Leu 260 265 270

Tyr Gly Asn Ile Val Leu Ser Gly Gly Thr Thr Met Phe Asp Gly Ile 275 280 285

Gly Asp Arg Met Ser Lys Glu Ile Thr Ala Leu Ala Pro Ser Ser Met 290 295 300

Lys Ile Lys Val Val Ala Pro Pro Glu Arg Lys Tyr Ser Val Trp Ile 305 310 315 320

Gly Gly Ser Ile Xaa Val Pro Asn Leu Gln Met Trp Ile Ala Lys Ala 325 330 335

Glu Tyr Xaa Asn Leu Asp Arg Gln Ser Ser Thr Gly Ser Ala Ser Asp 340 345 350

Gln Lys Ser Pro Ser Lys Thr Arg Ala Val Lys Ile Leu Xaa Asn Ser 355 360 365

Ser Ala Val Asn Phe Ser Thr Ser Tyr Thr Leu Ala Ile Arg Leu Glu 370 380

Leu Ser Ala Leu Ile Phe Leu Ile Ser Leu Glu Ile Ile Ser Ser Ser 385 390 395 400

Ile Lys Trp Gly Met Ala Ser Ser Ser Ile Cys Asn Ser Ser Lys Leu 405 410 415

Ser Met Lys Lys Gln Ser Xaa 420

<210> 3

<211> 422

<212> PRT

<213> Unknown

<220>

<223> Describes a predicted protein sequence

<220>

<221> site

<222> (1)...(422)

<223> A stop codon is predicted at all XAA locations

<400> 3

Xaa Arg Phe Phe Arg Ala Leu Xaa Ala Val Leu Ala Thr Pro Val Xaa 1 5 10 15

Trp Leu Gly Trp Asp Lys Arg Met Leu Met Leu Glu Thr Arg Leu Asn

| | | | 20 | | | | | 25 | | | | | 30 | | |
|------------|-------------|-------------|------------|------------|------------|------------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|
| Glr | a Asr | 1 Va] 35 | l Val | l Ser | : Xaa | Leu | Xaa 40 | . Ser | Thr | Gln | Leu | Ser 45 | Met | : Glu | ı Leu |
| Leu | 1 Il∈ 50 | e Ile | e Gly | / Met | Thr | Trp | Arg | Arg | Phe | e Gly | Ile 60 | Thr | Leu | ı Ser | Thr |
| Met 65 | Ser | Phe | e Val | . Leu | Pro | Leu | Lys | Asn | ılle | Arg | Xaa | Leu | Thr | Glu | Ala 80 |
| Pro | Leu | . Asn | n Pro | Lys 85 | Ala | Asn | Arg | Glu | . Lys 90 | Met | Thr | Gln | Ile | Met 95 | Phe |
| Glu | Thr | Phe | Asn 100 | | Pro | Ala | Met | Tyr 105 | | Ala | Ile | Gln | Ala 110 | | Leu |
| Ser | Leu | Tyr 115 | Ala | Ser | Gly | Arg | Thr 120 | Thr | Gly | Gln | Tyr | Ile 125 | Thr | Thr | Phe |
| Phe | Leu 130 | Tyr | Arg | Xaa | Ser | Gly 135 | Asp | Gly | Val | Ser | His 140 | Thr | Val | Pro | Ile |
| Tyr 145 | Glu | Gly | Tyr | Ala | Leu 150 | Pro | His | Ala | Ile | Leu 155 | Arg | Leu | Asp | Leu | Ala 160 |
| Gly | Arg | Asp | Leu | Thr 165 | Asp | His | Leu | Met | Lys 170 | Ile | Leu | Thr | Glu | Arg 175 | Gly |
| Tyr | Ser | Phe | Thr 180 | Thr | Thr | Ala | Glu | Arg 185 | Glu | Ile | Val | Arg | Asp 190 | Met | Lys |
| Glu | Lys | Leu 195 | Ser | Tyr | Ile | Ala | Leu 200 | Asp | Phe | Glu | Gln | Glu 205 | Leu | Glu | Thr |
| Ser | Lys 210 | Thr | Ser | Ser | Ser | Val 215 | Glu | Lys | Ser | Phe | Glu 220 | Leu | Pro | Asp | Gly |
| Gln 225 | Val | Ile | Thr | Ile | Gly 230 | Ala | Glu | Arg | Phe | Arg 235 | Cys | Pro | Glu | Val | Leu 240 |
| Phe | Gln | Pro | Ser | Met 245 | Ile | Gly | Met | Glu | Asn 250 | Pro | Gly | Ile | His | Glu 255 | Thr |
| Thr | Tyr | Asn | Ser 260 | Ile | Met | Lys | Cys | Asp 265 | Val | Asp | Ile | | Lys 270 | Asp | Leu |
| Tyr | Gly | Asn 275 | Ile | Val | Leu | | Gly 280 | Gly | Thr | Thr | | Phe 285 | Asp | Gly | Ile |
| Gly | Asp 290 | Arg | Met | Ser | | Glu 295 | Ile | Thr | Ala | Leu . | Ala 300 | Pro | Ser | Ser | Met |

Lys Ile Lys Val Val Ala Pro Pro Glu Arg Lys Tyr Ser Val Trp Ile

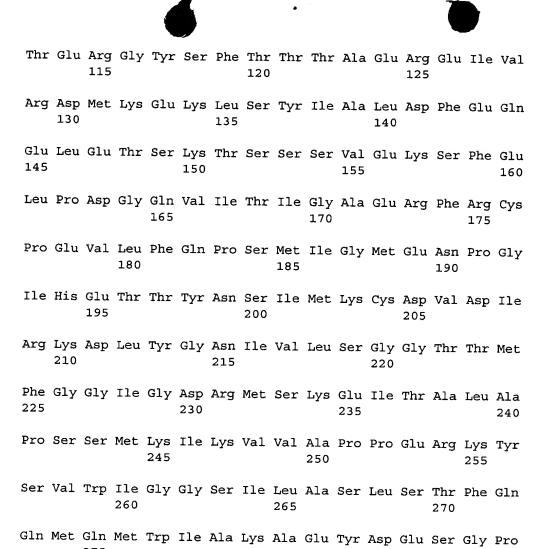
300

305 310 315 320 Gly Gly Ser Ile Leu Ala Ser Xaa Gln Met Trp Ile Ala Lys Ala Glu 325 Tyr Xaa Asn Leu Asp Arg Gln Ser Ser Thr Gly Ser Ala Ser Asp Gln 345 Lys Ser Pro Ser Lys Thr Arg Ala Val Lys Ile Leu Xaa Asn Ser Ser 355 360 Ala Val Asn Phe Ser Thr Ser Tyr Thr Leu Ala Ile Arg Leu Glu Leu 370 375 Ser Ala Leu Ile Phe Leu Ile Ser Leu Glu Ile Ile Ser Ser Ser Ile 390 395 Lys Trp Gly Met Ala Ser Ser Ser Ile Cys Asn Ser Ser Lys Leu Ser 410 Met Lys Lys Gln Ser Xaa 420 <210> 4 <211> 296 <212> PRT <213> Arabidopsis thaliana <220> <223> Ecotype columbia, describes actin <400> 4 Met Glu Lys Ile Trp His His Thr Phe Tyr Asn Glu Leu Arg Val Ala Pro Glu Glu His Pro Val Leu Leu Thr Glu Ala Pro Leu Asn Pro Lys 20 Ala Asn Arg Glu Lys Met Thr Gln Ile Met Phe Glu Thr Phe Asn Thr 40 Pro Ala Met Tyr Val Ala Ile Gln Ala Val Leu Ser Leu Ala Ser Gly Arg Thr Thr Gly Gly Ile Val Leu Asp Ser Gly Asp Gly Val Ser His 70 Thr Val Pro Ile Tyr Glu Gly Tyr Ala Leu Pro His Ala Ile Leu Arg

Leu Asp Leu Ala Gly Arg Asp Leu Thr Asp His Leu Met Lys Ile Leu

105

100



280

Ser Ile Val His Arg Lys Cys Phe 290 295

275